AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A graded index fiber comprising:

a drawn and fused preform comprising a plurality of low index rods, each having only a single refractive index, and at least one high index rod, having only a single refractive index, arranged in a predetermined pattern, the drawn and fused ~~perform~~ preform having first and second ends, wherein the drawn and fused ~~perform~~ preform is configured so that a mode of light transmitted from the first end to the second end is substantially maintained.

2. (Original) The graded index fiber of claim 1, wherein the preform includes intermediate index rods arranged in a predetermined pattern with the low index rods and the at least one high index rod.

3. (Original) The graded index fiber of claim 2, wherein the intermediate index rods have at least two different indices that are between an index of the low index rods and an index of the at least one high index rod.

4. (Original) The graded index fiber of claim 1, wherein the low index and high index rods are arranged using a statistical distribution to provide a desired refractive index distribution.

5. (Original) The graded index fiber of claim 1, wherein the low index and high index rods are glass.

6. (Original) The graded index fiber of claim 1, wherein the low index and high index rods are formed of a polymer.

7. (Original) A graded index fiber array comprised of a plurality of graded index fibers in accordance with claim 1, wherein each graded index fiber has a center located at a specified position.

8. (Original) The graded index fiber array of claim 7, wherein the array includes a plurality of graded index fibers arranged in an m x n array.

9. (Original) The graded index fiber array of claim 8, wherein the fused GRIN fibers are located at a predetermined pitch.

10. (Currently amended) A method of making a graded index fiber having first and second ends, comprising:

arranging a plurality of low index rods, each having a single refractive index, and a plurality of high index rods, each having a single index of refraction, in a predetermined pattern to form a ~~perform~~ preform, wherein the low index rods have a common refractive index and the high index rods have a common refractive index;

heating the preform of the low index and high index rods;

drawing and fusing together the preform of low index and high index rods such theat the relative position of the low index and high index rods is maintained, wherein the drawn and fused ~~perform~~ preform forms the graded index fiber and is configured such that a mode of light transmitted between the first and second ends is generally maintained.

11. (Original) The method of claim 10 wherein the low index and high index rods are arranged using a statistical distribution to provide a desired refractive index distribution.

12. (canceled)